

GP-303364

PORTED ENGINE CYLINDER LINER WITH SELECTIVELY  
LASER-HARDENED AND INDUCTION-HARDENED BORE

ABSTRACT OF THE DISCLOSURE

Selective laser and induction hardening are applied to areas of a water jacketed engine cylinder liner to provide improved resistance to scuffing resulting from the rubbing contact of the walls and piston rings of an associated piston. An upper bore portion and port relief areas of the liner are fully induction hardened to improve wear resistance. The port area is then fully laser hardened to improve wear resistance. If desired, the laser hardening process may continue beyond the intake port area to the port relief areas to ensure full hardening of the port relief areas and continuous hardening between the intake ports and the port relief areas to improve wear resistance.